

ABSTRACT OF THE INVENTION

The present invention reduces, in a pattern inspection apparatus for comparing images of corresponding areas of two patterns, which are formed so as to be identical, to judge that a non-coincident part of the images is a defect, influence of unevenness in brightness of patterns caused by a difference of thickness or the like and realizes highly sensitive pattern inspection. In addition, the present invention realizes high-speed pattern inspection without requiring changing an image comparison algorithm. In other words, in the present invention, the pattern inspection apparatus for comparing images of corresponding areas of two patterns, which are formed so as to be identical, to judge that a non-coincident part of the images is a defect includes means for performing comparison processing of images in parallel in plural areas. Further, the pattern inspection apparatus includes means for converting gradation of an image signal among compared images by different plural processing units such that, even in the case in which a difference of brightness occurs in an identical pattern among images, a defect can be detected correctly.